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ENVIRONMENTAL IMPACT STATEMENT

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Pursuant to: Montana Environmental Policy Act
Section 69-6504 (b) (3)

Project No. FG-17

Five Mile Creek Fisheries Development

May 3, 1972

Prepared by

Montana Fish and Game Department
Fisheries Division
Helena, Montana

Five Mile Creek Fisheries Development

Environmental Impact Statement

I. Purpose or Objective.

The objective of the Five Mile Creek development is the creation of a spawning and rearing area for game fish living in Lake Koocanusa (Libby Reservoir).

II. Description of Development Project.

Lake Koocanusa is a man-made reservoir on the Kootenai River created by Libby Dam. Libby Dam is 17 miles above the town of Libby, Montana. The dam and reservoir are being constructed by the Corps of Engineers for power production and flood control. Recreational development is a minor stated purpose of the reservoir project.

The reservoir will have a surface area of about 48,000 acres at full pool of which 28,000 acres are in Montana and the remainder in British Columbia. With a drawdown of 172 feet, the low pool surface area will be about 27,000 acres all in Montana. Species of fish found in the reservoir flowage include cutthroat trout (*Salmo clarki*), rainbow trout (*Salmo gairdneri*), Dolly Varden (*Salvelinus malma*), brook trout (*Salvelinus fontinalis*), mountain whitefish (*Prosopium williamsoni*), ling (*Lota lota*), pumpkinseed (*Lepomis gibbosus*), dace (*Rhinichthys cataractae*), redside shinner (*Richardsonius balteatus*), longnose sucker (*Catastomus catastomus*) and largescale sucker (*Catastomus macrochielus*).

The U. S. Corps of Engineers, the U. S. Forest Service and Montana Fish and Game Department are the agencies responsible for the development of recreational opportunities within the reservoir project boundary. The program includes development of camp sites, visitor day-use facilities, boating access, and introduction and maintenance of a game fish fishery. Initial introductions of a cutthroat trout which has demonstrated its suitability to reservoirs will be accomplished by stocking the reservoir and streams with hatchery-reared fish. Maintenance of a population in the reservoir will be accomplished by yearly plantings of hatchery-reared fish and from natural spawning.

The reservoir drainage area in Montana contains very few streams suitable for game fish reproduction. Streams considered to have some potential for cutthroat trout reproduction include Young Creek, Big Creek, Tobacco River, Pinkham Creek and Five Mile Creek. A trial development project which included removal of barriers, suppression of the resident fish population and restocking with adfluvial westslope cutthroat trout fingerlings was instituted in Young Creek in 1969. The trout were planted in fall 1970 and 1971 and are expected to start moving out of Young Creek into the reservoir in spring and summer 1972. Operation of a downstream trap in Young Creek each year since 1970 has indicated that out-movement of juvenile cutthroat trout has increased for spring 1972 over similar periods in 1970 and 1971.

Development of the Five Mile Creek drainage scheduled for fall 1972 will be very similar to that done in Young Creek. The three steps include (1) removal of barriers that may inhibit either upstream movement of adult spawners (In 1968 there were 63 barriers in this section; the number changes somewhat after each spring runoff) or downstream movement of juvenile fish; (2) suppression of the resident fish population to reduce competition with the planted fish; and (3) restocking hatchery-reared adfluvial westslope cutthroat trout.

Five Mile Creek is a small drainage that enters Lake Koocanusa from the east about 13 miles upstream from Libby Dam. Flows range from 2 to 100 cfs with summer flows averaging less than 10 cfs. The valley is typical V-shaped bordered by steep sloped mountains. The lower four miles of stream runs above ground all year while the upper two miles are ephemeral.

Barriers to be removed include trash dams and numerous inactive beaver dams. A few active beaver dams,generally in the upper end of the four-mile section, will not be removed. Removal of these barriers will be done by hand tools and chain saws. Some long-term maintenance work is anticipated to insure free upstream fish movement.

Five Mile Creek is populated by fair numbers of brook trout and few cutthroat and rainbow trout. This stream has supported a small fishery in past years. It is deemed advisable to chemically suppress this resident fish population to insure the fastest conversion of this stream to a spawning and nursery area for game fish from Lake Koocanusa. Suppression of that creek's resident fish population is desirable, as is indicated by a 30 percent survival of fingerling cutthroat trout from 1970 to 1971 which were planted in Young Creek following similar suppression. Suppression will be accomplished by treating the stream with a rotenone-based fish toxicant. Detoxification of the chemical as it leaves the stream and flows into Lake Koocanusa may be advisable; however, dilution and degradation of the rotenone-base compound will reduce toxic effects at the stream's mouth.

Fingerling trout will be planted as soon as Five Mile Creek is no longer toxic. It is anticipated that about 10,000 adfluvial cutthroat will be stocked in 1972 and the plant will likely be repeated for several years. Tests will be conducted in summer 1973 to determine survival of the planted fish and adjust additional planting numbers.

III. Description of Existing Environment.

A. Human Resources.

Human resources include anglers who in the past have fished Five Mile Creek. The 1968 statewide creel census gives a point estimate of fishing pressure of 186 man-days. Fishing pressure was primarily from residents living in the small town of Warland and from Forest Service personnel assigned to the Warland Ranger Station. Both the town and the ranger station have been moved outside of the impoundment area.

B. & C. Physiography, Geology and Land Use.

Elevation of the creek watershed ranges from 2200 to 5600 feet, MSL. The valley is V-shaped ringed by steep mountains. Most of the land is timbered and timber production has been the chief commercial enterprise in past years. The Kootenai National Forest reports that slopes in the drainage are unstable and subject to massive land failures. The drainage has been heavily logged and movements of soil are evident. The streambottom is silty throughout most of the drainage and particularly in the area with beaver dams. Removal of these dams should permit more efficient flushing of silts and rehabilitation of streams to give better spawning and rearing conditions. Long-range land management planning by Kootenai National Forest includes decreased

logging activities and healing of earth failures caused by past logging.

Most of the drainage is controlled by the U. S. Forest Service. A few acres of streambottom are owned by the St. Regis Company. The Corps of Engineers has purchased some private land and Forest Service land for campground development.

D. Fish and Wildlife.

Wildlife includes the usual species associated with Northwestern Montana. Beaver are present in the stream in fair numbers. The stream is populated with brook trout, rainbow trout and cutthroat trout. These fish reach a maximum size of about eight inches.

E. Vegetative Resources.

Riparian vegetation is abundant along the stream and includes grasses, sedges, willow, alders and small conifers. The slopes are largely vegetated by conifer trees of all sizes. The riparian vegetation provides shade and cover for the stream and its inhabitants. Barrier removal included as an integral part of the development does not include removal or destruction of streamside vegetation.

F. Climate.

The climate is typical of northwestern Montana with approximately 100 days in the growing season. Precipitation falls mainly in the form of snow and ranges from 30 inches in the valley floor to 60 inches at higher elevations.

IV. Evaluation of Environmental Impact.

A. & B. Impact and Unavoidable Effects of Proposed Development.

The Five Mile Creek development entails work in three stages. The impact of each of these three steps will be discussed. The first step is the removal of barriers inhibiting upstream and downstream movement of fish. It is proposed that these barriers be eliminated from the stream. It must be noted that only those obstructions limiting fish movement will be removed and then only to the extent they are inhibiting movement. Cover utilized by trout will generally be undisturbed although some may be destroyed in the process.

Removal of some of the beaver dams will likely enhance production of aquatic fish food organisms. At present the numerous beaver dams have created situations where silt and debris settle out plugging the natural bottom strata, reducing spawning potential and habitat niches for aquatic insects. Removal of beaver dams will allow for increased natural flushing producing better conditions for fish reproduction and production of aquatic insects. The sediments these dams have retained, beyond the ones which settle normally in stream bottoms, will wash out of the stream during the 1973 spring runoff. The habitat for resident fish will be reduced;however, the purpose of this entire project is to change from resident to migratory trout production.

The second step of the development is suppression of the resident fish population comprised primarily of brook trout. The ultimate aim is to produce a spawning area for adults and rearing areas for young westslope cutthroat trout living in Lake Koocanusa. Spawning runs of cutthroat would eventually develop in the drainage with no assistance from man. Development work is intended to speed up the process with little overall disturbance to either the reservoir or stream fishery. Aquatic insects will also be killed in the areas treated but our past experience has shown they repopulate rapidly from upstream and tributary areas Rapid dilution of the toxicant at the stream's mouth will preclude any necessity for chemical detoxification.

Chemical suppression of the resident fish population will speed up the transition from small resident trout to spawning runs of cutthroat trout by several years and should result in bettery fishery in both Lake Koocanusa and Five Mile Creek. Survival of the fingerling westslope cutthroat trout introduced depends to a large extent upon the amount of competition. Cutthroat trout planted in Young Creek following chemical treatment of the resident cutthroat and brook trout population has averaged a 30 percent survival. Fingerling-size fish planted in other streams containing resident fish generally run less than 5 percent survival.

The third step of the development plan is the planting of about 10,000 fingerling-size westslope cutthroat trout each year for three years to establish the three year-classes generally found in westslope cutthroat trout spawning and rearing streams. It is anticipated that the planted fish will remain in the "parent stream" 20 months. They will then move downstream into Lake Koocanusa, mature in two years, and return to the "parent stream" to spawn as four-year olds. The first spawning run should appear in spring 1976 and include enough mature fish to fill up the spawning and rearing potential of Five Mile Creek.

Five Mile Creek has supported a small fishery for pan-sized fish by residents living in the town of Warland, Montana. Warland no longer exists and it is thought that fishing pressure on Five Mile Creek will be considerably less than in 1968. The development of a Lake Koocanusa campground in the lower end of Five Mile Creek and completion of Montana Highway #37 by 1975 should increase angling pressure in the future

Chemical suppression of the resident fish population will eliminate creel-size fish for a period of about 18 months. The planted cutthroat trout are expected to range from 4 to 8 inches in length before they move downstream into Lake Koocanusa. They would provide a fair sport fishery similar to the present brook trout fishery.

A spawning run of mature cutthroat trout from Lake Koocanusa should provide angler opportunity to catch fish of a much greater size and desirability both in the reservoir and in the stream than that produced by the resident brook trout population. A fishery based on spawning or juvenile adfluvial cutthroat trout may have to be closely regulated to insure adequate upstream and downstream escapement.

C. Alternative.

Alternatives to the three step development plan have already been discussed in some detail. These alternatives are: (1) Eliminate any development. There is a very good possibility that Five Mile Creek will ultimately develop into a spawning and rearing stream for fish from Lake Koocanusa whether or not any development work is done by Montana Fish and Game Department. This natural development may take many years and require a drainage scouring flood. (2) Eliminate either or both steps 2 and 3 from the development plan. If steps 2 and 3 were not performed, many years would be required for the westslope cutthroat to establish a fishery, if indeed they ever could without suppression of the resident fish and planting of the desirable species.

The proposed development project is intended to speed up a natural process to obtain the greatest benefit for both Lake Koocanusa and Five Mile Creek in the shortest time possible.

D. Short-Term - Long-Term Use.

The establishment of a self-sustaining population in Five Mile Creek from Lake Koocanusa will have both long- and short-term benefits. It is anticipated that this spawning population will be in existance for many years and the benefit will be derived from both the creek and reservoir.

E. Irreversible and Irretrievable Commitment of the Resource.

The commitment of Five Mile Creek as a spawning tributary for Lake Koocanusa need not be irreversible. A barrier could be constructed to eliminate fish movement from the lake into the creek and the present fish population sustained. To return the stream to its pre-Lake Koocanusa condition would require man-made manipulation of a barrier even if no development work was done in the creek.

F. Discussion of Problems and Objections by Other Agencies or the Public.

No problem with other agencies is anticipated. The Corps of Engineers will provide the funds for the development work on Lake Koocanusa tributary streams. The U. S. Forest Service has agreed to the principle and need for development of Lake Koocanusa tributaries for spawning and rearing streams. It is assumed that the St. Regis Company will have

no objections as long as potential timber production is not affected. Little objection from the public at large is expected. Very little opposition was encountered during discussions with the public, including private landowners, about the Young Creek development. The Young Creek development did not include fish suppression in all of Young Creek. An area where the stream contained a good population of brook trout was omitted. Several landowners in that area have since stated they wished we would have treated the entire stream and not just the upper eight miles.

A copy of this Impact Statement will be attached to a Special Use Permit application to be submitted to Kootenai National Forest for channel clearance activities.

V. Benefits.

The benefits from this project will be improved natural reproduction for game fish populations in Lake Koocanusa. Such improved reproduction should allow the lake to support more angler days sooner than it could if this project were not done.

VI. Summary Statement.

Approximately 75 barriers (trash jams and inactive beaver dams) will be removed from Five Mile Creek, a tributary of Lake Koocanusa. Removal will be by use of chain saws and hand tools. Some maintenance work may be necessary in subsequent years to maintain access for spawning runs into this stream.

The resident fish population (primarily resident brook trout and a few resident cutthroat and rainbow) will be suppressed with a rotenone-based fish toxicant and the stream will be restocked with an adfluvial strain of cutthroat trout.

VII. A List of Mailing Distribution.

✓ U. S. Forest Service
✓ Department of Planning and Economic Development
✓ Department of Natural Resources
✓ Trout Unlimited
✓ Montana Wildlife Federation
✓ Environmental Quality Council
✓ Governor's Office
✓ Students Environmental Research Center
✓ District Fisheries Managers
✓ Joe Huston